



MATERIAL SAFETY DATA SHEET

(Essentially similar to U.S. Department of Labor Form OSHA-20)

Do Not Duplicate This Form. Request an Original

MAY 28 1982



I. PRODUCT IDENTIFICATION

PRODUCT	Acetylene (Compressed gas in solution)	DPM 149
CHEMICAL NAME	Acetylene	SYNONYMS Ethyne, Ethine
FORMULA	C ₂ H ₂	CHEMICAL FAMILY Alkyne
TRADE NAME AND SYNONYMS	---	MOLECULAR WEIGHT 26.038

II. HAZARDOUS INGREDIENTS

Refer to Section V for TLV information.
For mixtures of this product request the respective component Material Safety Data Sheets.

III. PHYSICAL DATA

BOILING POINT, 760 mm. Hg	-84°C (-119.2°F)	FREEZING POINT	NA
SPECIFIC GRAVITY (H ₂ O = 1)	NA	VAPOR PRESSURE AT 20°C.	635 psig
VAPOR DENSITY (air = 1)	0.9	SOLUBILITY IN WATER, % by wt.	Slight
PER CENT VOLATILES BY VOLUME	100	EVAPORATION RATE (Butyl Acetate = 1)	High
APPEARANCE AND ODOR	Colorless, Garlic-like odor.		

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (test method)	-17.8°C (0°F) (TCC)	AUTOIGNITION TEMPERATURE	299°C (571°F)
FLAMMABLE LIMITS IN AIR, % by volume	LOWER 2.3%	UPPER	100%
EXTINGUISHING MEDIA	See paragraphs below		

SPECIAL FIRE FIGHTING PROCEDURES

Evacuate all personnel from danger area. Immediately cool containers with water spray from maximum distance taking care not to extinguish flames. Remove ignition sources if without risk. If flames are accidentally extinguished, explosive re-ignition may occur. Use self-contained breathing apparatus. Stop flow of gas if without risk while continuing cooling water spray. Remove all containers from area of fire if without risk. Allow fire to burn out.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Extremely flammable gas. Forms explosive mixtures with air and oxidizing agents. Container may rupture due to heat of fire. Do not extinguish flames due to possibility of explosive re-ignition. Flammable vapors may spread from spill. Explosive atmospheres may linger. Before entering area, especially confined areas, check atmosphere with approved explosion meter. No part of a container should be subjected to a temperature higher than 52°C (approximately 125°F). All containers are provided with a pressure relief device designed to vent contents when they are exposed to elevated temperature. Contact with copper, silver, mercury or their alloys or halogens can cause explosion.

EMERGENCY PHONE NUMBER

IN CASE OF EMERGENCIES involving this material, further information is available at all times at this telephone number:

304: 744-3487

For routine information contact your local Linde Supplier.

While Union Carbide Corporation believes that the data contained herein are factual and the opinions expressed are those of qualified experts regarding the tests conducted, the data are not to be taken as a warranty or representation for which Union Carbide Corporation assumes legal responsibility. They are offered solely for your consideration, investigation, and verification. Any use of these data and information must be determined by the user to be in accordance with applicable Federal, State, and local laws and regulations.

UNION CARBIDE CORPORATION ■ LINDE DIVISION ■ 270 PARK AVENUE, NEW YORK, N.Y. 10017

PRODUCT: Acetylene (Compressed in Solution)

L-4559-B

V. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE Simple asphyxiant (ACGIH-1979)

EFFECTS OF OVEREXPOSURE AND EMERGENCY AND FIRST AID PROCEDURES

Asphyxiation, anesthesia, headache, dizziness.

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician. Keep warm and at rest.

VI. REACTIVITY DATA

STABILITY		CONDITIONS TO AVOID
Unstable	Stable	
X		

Stable as shipped. Avoid use at pressures above 15 psig.

INCOMPATIBILITY (materials to avoid) Copper, silver, mercury or their alloys, oxidizing agents, acids, halogens, moisture.

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition or burning may produce CO/CO₂/H₂.

HAZARDOUS POLYMERIZATION		CONDITIONS TO AVOID
May Occur	Will not Occur	
X		

Elevated temperature and pressure and/or the presence of a catalyst.

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

DANGER: Forms explosive mixtures with air (see Section IV). Immediately evacuate all personnel from danger area. Use self-contained breathing apparatus where needed. Remove all sources of ignition if without risk. Reduce vapors with fog or fine water spray. Shut off leak if without risk. Ventilate area of leak or move leaking container to well-ventilated area.

DANGER: Flammable vapors may spread from spill. Before entering area, especially confined areas, check atmosphere with appropriate device.

WASTE DISPOSAL METHOD

Prevent waste from contaminating surrounding environment. Keep personnel away. Call supplier for disposal information.

PRODUCT: Acetylene (Compressed Gas in Solution)

L-4559-B

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)

Self-contained breathing apparatus where needed.

VENTILATION	LOCAL EXHAUST Explosion-proof system is acceptable.
	MECHANICAL (general) Inadequate
	SPECIAL ---
	OTHER ---

PROTECTIVE GLOVES Preferred for cylinder handling.

EYE PROTECTION Safety goggles.

OTHER PROTECTIVE EQUIPMENT Metatarsal shoes for cylinder handling. Protective clothing where needed.

IX. SPECIAL PRECAUTIONS

DANGER: Flammable, compressed gas in solution.

Use piping and equipment adequately designed to withstand pressures to be encountered.

May form explosive mixtures with air.

Ground all equipment. Only use spark-proof tools and explosion-proof equipment. (Avoid copper alloy wrenches.)

Keep away from heat, sparks and open flame. Store and use with adequate ventilation at all times.

Use only in a closed system. Close valve when not in use and when empty.

OTHER HANDLING AND STORAGE CONDITIONS

Keep away from oxidizing agents. Avoid all contact with copper, silver, mercury or their alloys.

**UNION CARBIDE CORPORATION
LINDE DIVISION**

**GENERAL OFFICES: NEW YORK
OFFICES IN PRINCIPAL CITIES**



**LINDE
DIVISION**